

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in this application.

LISTING OF CLAIMS:

1. (Currently amended) An image processor, wherein characteristics of a plurality of skin colors are classified beforehand, comprising:

an area extractor which extracts skin areas from input image data

a decider which decides among a plurality of different classifications,

in which type in the classification each of the extracted skin areas belong; and

an image corrector which corrects image data of each of the skin areas extracted by said area extractor according to a correction method provided beforehand that corrects each one of the plurality of different classified skin areas differently according to which of the plurality of different classifications the skin area belongs ~~for each type of the classification.~~

2. (Original) The image processor according to claim 1, wherein said area extractor determines the characteristic of skin according to average, dispersion and center of gravity obtained from a histogram of image data of each of the skin areas.

3. (Original) The image processor according to claim 1, wherein said image corrector prepares a histogram of hue for each of the skin areas extracted by said image extractor, modifies the histogram to shift the center of gravity thereof to come close to center of gravity of a memory color of the skin color according to the

characteristic of skin color of the each of the skin areas, generates a correction curve for correcting the image data according to the modified histogram, and corrects the image data in the skin area according to the correction curve.

4. (Original) The image processor according to claim 3, wherein said image corrector prepares a histogram of chroma for each the skin areas extracted by said image extractor, modifies the histogram according to the characteristic of skin, and generates a correction curve for the image data in the skin area.

5. (Original) The image processor according to claim 4, wherein when the skin areas are extracted from the input image data, said area extractor extracts skin candidate areas from image data, converts color specification system of the image data for each of the skin candidate areas and extracts skin areas from the skin candidate areas based on the image data in the color specification system.

6. (Original) The image processor according to claim 5, wherein said area extractor comprises a divider which divides the image data into rectangle areas, and an area integrator which integrates the rectangle areas for each of the characteristic when the skin areas are extracted, wherein said area integrator integrates adjacent pixels if difference in hue between adjacent pixels is within a threshold determined for each skin type.

7. (Original) The image processor according to claim 1, wherein said image corrector prepares a histogram of chroma for each of skin areas extracted by

said image extractor, modifies the histogram according to the characteristic of skin, and generates a correction curve for correcting the image data.

8. (Original) The image processor according to claim 1, wherein when the skin areas are extracted from the input image data, said area extractor extracts skin candidate areas from image data, converts color specification system of the image data for each of the skin candidate areas and extracts skin areas from the skin candidate areas based on the image data in the color specification system.

9. (Original) The image processor according to claim 1, wherein said area extractor comprises a divider which divides the image data into rectangle areas, and an area integrator which integrates the rectangle areas for each of the characteristic when the skin areas are extracted, wherein said area integrator integrates adjacent pixels if difference in hue between adjacent pixels is within a threshold determined for each skin type.

10. (Currently Amended) An image processing method, wherein characteristics of a plurality of skin colors are classified beforehand, the method comprising the steps of:

extracting skin areas from input image data;

deciding which, among a plurality of different classifications, ~~type in the classification~~ each of the extracted skin areas belongs; and

correcting image data of each of the extracted skin areas according to one of a plurality of different correction methods ~~a correction method~~ provided beforehand that corrects each one of the plurality of different classified skin areas

differently according to which of the plurality of different classifications the skin area belongs for each type of the classification.

11. (Original) The image processing method according to claim 10, wherein said image correction step comprises the steps of:

preparing a histogram of hue of each of the extracted skin areas;

changing the histogram to shift the center of gravity thereof to come close to center of gravity of a memory color of the skin color according to the characteristic of skin color of the each of the skin areas;

generating a correction curve for correcting the image data according to the modified histogram; and

correcting the image data in the skin area according to the correction curve.

12. (Currently Amended) A computer-readable storage medium storing a computer program comprising the steps of:

providing a plurality of classifications ~~classification~~ of characteristics, each classification corresponding to ~~of~~ a plurality of skin colors;

extracting skin areas from input image data;

deciding which ~~type in the classification,~~ among the plurality of different classifications, each of the extracted skin areas belong; and

correcting image data of each of the extracted skin areas according to a correction method provided beforehand that corrects each one of the plurality of different classified skin areas differently according to which of the plurality of different classifications the skin area belongs to ~~for each type of the classification.~~

13. (Original) The computer-readable storage medium according to claim 12, wherein in said extracting step, the characteristic of skin is determined according to average, dispersion and center of gravity obtained from a histogram of image data of the skin area.

14. (Original) The computer-readable storage medium according to claim 12, wherein in said correcting step, a histogram of hue of the extracted skin area is prepared, the histogram is modified to shift the center of gravity thereof to come close to center of gravity of a memory color of the skin color according to the characteristic of skin color of each of the skin areas, a correction curve for image data is generated according to the modified histogram, and the image data in the skin area is corrected according to the correction curve.

15. (Original) The computer-readable storage medium according to claim 14, wherein in said correcting step, a histogram of chroma of each of the extracted skin areas is prepared, the histogram is extended according to the characteristic of skin, and a correction curve for the image data is generated.

16. (Original) The computer-readable storage medium according to claim 15, wherein when the skin areas are extracted from the input image data, skin candidate areas are extracted from image data, color specification system of the image data is converted for each of the skin candidate areas and skin areas are extracted from the extracted skin candidate areas based on the image data in the color specification system.

17. (Original) The computer-readable storage medium according to claim 16, wherein in said extracting step, the image data are divided into rectangle areas, and the rectangle areas are integrated for each of the characteristic when the skin areas are extracted, wherein adjacent pixels are integrated if difference in hue between adjacent pixels is within a threshold determined for each skin type.

18. (Original) The computer-readable storage medium according to claim 12, wherein in said correcting step, a histogram of chroma of each of the extracted skin areas is prepared, the histogram is modified according to the characteristic of skin, and a correction curve for the image data is generated.

19. (Original) The computer-readable storage medium according to claim 12, wherein when the skin areas are extracted from the input image data, skin candidate areas are extracted from image data, color specification system of the image data is converted for each of the skin candidate areas and skin areas are extracted from the extracted skin candidate areas based on the image data in the color specification system.

20. (Original) The computer-readable storage medium according to claim 12, wherein in said extracting step, the image data are divided into rectangle areas, and the rectangle areas are integrated for each of the characteristic when the skin areas are extracted, wherein adjacent pixels are integrated if difference in hue between adjacent pixels is within a threshold determined for each skin type.

21. (Presently Amended) An image processor comprising:
an area extractor which extracts skin areas from input image data;
a classifier which classifies each of the skin areas into one of a plurality of skin types according to characteristics of a plurality of skin colors; and
an image corrector which differently corrects image data of each of the plurality of different classifications of the skin areas classified in the same skin type according to which of the plurality of different classifications the skin area belongs in common.

22. (Previously Presented) The image processor according to claim 1, wherein said area extractor firstly extracts skin candidate areas from image data of an entire area and secondly extracts skin areas from the image data in said skin candidate areas.

23. (Withdrawn) An image processing method comprising the steps of:
converting input image data from RGB signals to HSL signals;
extracting skin candidate areas based on the RGB signals of the input image data;
converting the HSL signals in said skin candidate areas to Lab data;
and
extracting skin areas based on the data of ab.

24. (Previously Presented) An image processing method comprising the steps of:
extracting skin candidate areas from image data of an entire area by use of a first method; and

extracting skin areas from the image data in the extracted skin
candidate areas by use of a second method different from the first method.